

C. REMARKS

This Reply is in response to the Office Action dated December 13, 2006, in which claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 were rejected. Claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 are presented by the Applicants for reconsideration and allowance.

1. REJECTION OF CLAIMS 1, 2, 5, 8, 18, 19, 57, AND 59 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER *SULLIVAN ET AL.* '561 IN VIEW OF *STATZ ET AL.*

Page 2 of the Office Action rejected claims 1, 2, 5, 8, 18, 19, 57, and 59 under 35 U.S.C. § 103(a) as being unpatentable over *Sullivan et al.* '561 (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480). Claim 1 is an independent claim, and claims 2, 5, 8, 18, 19, 57, and 59 depend from claim 1.

Sullivan et al. '561 is directed to a golf ball having a multi-layer cover with a reduced overall quantity of ionomer in the cover. *Statz et al.* is directed to a highly-resilient thermoplastic elastomer composition that can be used in golf balls.

Independent claim 1 recites a golf ball including a solid center, at least one intermediate layer, and a cover layer. The solid center has a deflection, under an applied static load of 200 lb., of between about 0.090 inches and about 0.150 inches. The intermediate layer includes thermoplastic material. The material includes a co- or ter- polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions. The co- or ter-polymer including a level of Magnesium Oleate. The cover layer includes an ionomer or ionomer blend and has a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70. The golf ball, when struck by a driver club at a clubhead velocity of about 160 feet-per-second, has an initial velocity off the clubhead of greater than 240 feet-per-second. Dependent claim 2 recites a golf ball having a coefficient of restitution (COR) of greater than 0.815 at a test velocity of 150 feet-per-second.

Sullivan et al. '561 alone or in combination with *Statz et al.* does not disclose, teach or suggest the golf ball of claim 1. In particular, *Sullivan et al.* '561 and *Statz et al.* do not disclose, teach or suggest a golf ball including a cover layer

comprising an ionomer or ionomer blend having a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70, and a golf ball, which, when struck by a driver club at a clubhead velocity of about 160 feet-per-second, has an initial velocity off the clubhead of greater than 240 feet-per-second, as required by claim 1.

The rejection on page 2 of the Office Action relies on *Sullivan et al.* '561 and its reference to a golf ball having an outer cover layer with a Shore D hardness of at least 60. The Office Action then states on page 3 that because "the combination [*of Sullivan et al.* '561 and *Statz et al.*] would result in a golf ball of the same structure as that of the applicant, the initial velocity off the clubhead of greater than about 240 feet-per-second [*when struck by a driver club at a clubhead velocity of about 160 feet-per-second*] and the COR are inherently met."

This Statement, however, is misplaced. First, a golf ball having an outer cover layer with a Shore D hardness of 60, or even 65, cannot produce the 240 feet-per-second initial velocity requirement. A golf ball's initial velocity when struck by a clubhead of a fixed speed (160 feet-per-second), is dependent (at least in part) on the hardness of the cover layer of the golf ball. A golf ball with a reduced hardness value (such as a Shore D of 60) will significantly deform upon impact deadening the response of the golf ball off the clubhead. A golf ball having a cover layer with a Shore D hardness value of 60 simply will not produce the required velocity of claim 1. Golf balls including an outer cover layer having a Shore D hardness value of approximately 60 are equivalent to high spin balls, which are designed to deform and produce increased spin upon impact, not necessarily exceptional distance or high velocity. The reference in *Sullivan et al.* '561 to a cover layer having a Shore D of at least 60 is a broad statement encompassing most golf balls. It does not disclose or identify the significance of producing a golf ball having a cover layer with a Shore D hardness value of greater than 70, particularly with the initial velocity requirement of claim 1.

Further, the golf ball constructions disclosed and taught by *Sullivan et al.* '561 do not inherently result in constructions that result in the Shore D hardness and initial velocity requirement of claim 1. Inherency requires the missing content to be necessary. *Southern Clay Products, Inc. v. United Catalysts, Inc.*, 43 Fed.Appx. 379,

388 (Fed. Cir. 2002). Inherency may not be established by probabilities or possibilities. *Id.* “The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Southern Clay Products, Inc.*, 43 Fed.Appx. at 388 (citing *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999)). It is not necessary for the golf ball constructions disclosed and taught by *Sullivan et al.* ‘561 or *Statz et al.* to provide a golf ball that exhibits an initial velocity off a clubhead of greater than 240 feet-per-second, when struck by the clubhead of a driver at a velocity of about 160 feet-per-second, or that exhibits a coefficient of restitution of greater than about 0.785 at a test velocity of 175 feet-per-second. Therefore, it is not inherent that the golf ball constructions of *Sullivan et al.* ‘561 will result in the required velocity value. *Sullivan et al.* ‘561 and *Statz et al.* are devoid of any disclosure, teaching or suggestion indicating that the COR and initial velocity values will necessarily result from the structure of claim 1.

Accordingly, Applicants respectfully submit that independent claim 1 is patentable over *Sullivan et al.* ‘561 alone or in combination with *Statz et al.* for at least the reasons stated above. Additionally, Applicants respectfully submit that claims 2, 5, 8, 18, 19, 57, and 59, which depend from claim 1, are also patentable over *Sullivan et al.* ‘561 and *Statz et al.* for at least the same reasons.

Further, in reference to dependent claim 2, which adds the limitation “the golf ball has a coefficient of restitution of greater than 0.815 at a test velocity of 150 feet-per-second,” *Sullivan et al.* ‘561 discloses a golf ball having a coefficient of restitution (“COR”) of at least 0.750 with a test velocity of 125 +/- 5 fps. The COR is linearly related to velocity along a negative slope. Thus, the parameters are inversely proportional, with COR decreasing as test velocity increases. This relationship results, at least in part, because as the velocity increases, the golf ball deforms more upon impact, and the energy absorbed by the deformation reduces the golf ball’s return velocity, and therefore its COR. Therefore the 0.750 COR of *Sullivan et al.* ‘561 at a test velocity of 125 fps would actually decrease at a velocity of 150 fps as required by claim 2. Accordingly, *Sullivan et al.* ‘561 does not teach, suggest or disclose the COR and velocity limitation of dependent claim 2. Similarly, all of the COR values listed in *Statz et al.* are measured at a test velocity of 125 fps, none of which are as high as, or higher than, Applicants’ recited value of 0.815 (at 150 fps).

In reference to dependent claim 59, the basis of rejection for this claim cites the *Yamada et al.* reference. Applicants respectfully note that claim 59 may be more appropriately grouped in the following rejection.

2. REJECTION OF CLAIMS 28-30, 32, 41, 42, (59), 62-64, 67, AND 68 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER *SULLIVAN ET AL.* '561 IN VIEW OF *STATZ ET AL.* AND *YAMADA ET AL.*

Page 4 of the Office Action rejected claims 28-30, 32, 41, 42, (59), 62-64, 67, and 68 under 35 U.S.C. § 103(a) as being unpatentable over *Sullivan et al.* '561 (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480) and *Yamada et al.* (U.S. Patent No. 5,585,440). Claim 28 is an independent claim, and claims 29, 30, 32, 41, 42, 62-64, 67, and 68 depend from claim 28. Claim 59 depends from independent claim 1, the rejection of which is discussed above.

Independent claim 28, recites a golf ball including a core, a mantle, and a cover layer. The core includes a high cis-content polybutadiene rubber. The rubber is synthesized using a neodymium catalyst. The mantle includes a co- or ter- polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions. The cover layer includes an ionomer and has a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70. The golf ball exhibits a coefficient of restitution of greater than about 0.785 at a test velocity of 175 feet-per-second.

Sullivan et al. '561, *Statz et al.* and *Yamada et al.* do not disclose, teach or suggest the golf ball of claim 28. In particular, *Sullivan et al.* '561, *Statz et al.* and *Yamada et al.* do not disclose, teach or suggest a golf ball including a core, a mantle including a co- or ter- polymer of ethylene and acrylic acid, wherein about 100% of the acid groups are neutralized with metal ions, a cover layer comprising an ionomer having a Shore D hardness, measured on the curved surface of the golf ball of greater than 70, the golf ball having a coefficient of restitution of greater than 0.785 at a test velocity of 175 feet-per-second. Much of the discussion above relating to claim 1 is directly applicable to these limitations of claim 28. *Yamada et al.* is directed to rubber compositions for golf balls and does not disclose, suggest or teach the Shore D hardness and COR limitations of claim 28. Applicants respectfully submit that claim 28 is patentable over *Sullivan et al.* '561, *Statz et al.* and *Yamada et al.* for at least the same

reasons stated above with respect to claim 1. Applicants also respectfully submit that claims 29, 30, 32, 41, 42, (59), 62-64, 67, and 68, which depend from claim 28 (or claim 1), are also patentable over *Sullivan et al.* '561, *Statz et al.* and *Yamada et al.* for at least the same reasons.

3. REJECTION OF CLAIMS 11 AND 12 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER SULLIVAN ET AL. '561 IN VIEW OF STATZ ET AL. FURTHER IN VIEW OF YAMAGISHI ET AL.

Page 6 of the Office Action rejected claims 11 and 12 under 35 U.S.C. §103(a) as being unpatentable over *Sullivan et al.* '561 (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480) further in view of *Yamagishi et al.* (U.S. Patent No. 5,779,563). Claims 11 and 12 both depend from claim 1. Applicants respectfully submit that claims 11 and 12 are patentable over *Sullivan et al.* '561 and *Statz et al.* for at least the same reasons stated above with respect to claim 1.

Yamagishi et al. fails to overcome the deficiencies of *Sullivan et al.* '561 and *Statz et al.* *Yamagishi et al.* describes a multi-piece solid golf ball having a solid core and a cover of at least two layers enclosing the core. The solid core is formed of a rubber base and has a specific gravity of at least 1.00. The cover is formed of a thermoplastic resin and the cover outer layer has a greater specific gravity than the core or a cover inner layer.

Contrary to the assertion in the Office Action, *Yamagishi et al.* does not disclose a golf ball wherein the core, intermediate layer and cover have approximately the same specific gravity. Instead, *Yamagishi et al.* teaches increasing the moment of inertia of the golf ball by moving as much weight to the outer portion of the golf ball as possible. Thus, in column 2, lines 31-34, *Yamagishi et al.* teaches that the cover outer layer must have a higher specific gravity than the cover inner layer, thereby specifically teaching away from the present invention.

Moreover, *Yamagishi et al.* is devoid of any disclosure, teaching or suggestion of a golf ball having a core, a mantle, and a cover layer with approximately the same specific gravity, such that when the ball is rotated in a solution of salt water of sufficient density to support the ball, the ball exhibits no single preferred orientation.

As stated in the present application, such balance improves the intended flight and roll path of the ball.

4. REJECTION OF CLAIMS 33 AND 34 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER SULLIVAN ET AL. '561 IN VIEW OF SULLIVAN ET AL. '806 AND YAMADA ET AL. FURTHER IN VIEW OF YAMAGISHI ET AL.

Page 7 of the Office Action rejected claims 33 and 34 under 35 U.S.C. § 103(a) as being unpatentable over *Sullivan et al. '561* (U.S. Patent No. 5,779,561) in view of *Sullivan et al. '806* (U.S. Patent No. 5,984,806) and *Yamada et al.* (U.S. Patent No. 5,585,440) further in view of *Yamagishi et al.* (U.S. Patent No. 5,779,563). Claims 33 and 34 both depend from claim 28.

Sullivan et al. '561, *Sullivan et al. '806* and *Yamada et al.* do not disclose, teach or suggest the golf ball of claim 28. In particular, *Sullivan et al. '561*, *Sullivan et al. '806* and *Yamada et al.* do not disclose, teach or suggest a golf ball including a core, a mantle including a co- or ter- polymer of ethylene and acrylic acid, wherein about 100% of the acid groups are neutralized with metal ions, a cover layer comprising an ionomer having a Shore D hardness, measured on the curved surface of the golf ball of greater than 70. *Yamada et al.* is directed to rubber compositions for golf balls and does not disclose, suggest or teach the 100% neutralization and Shore D hardness limitations of claim 28.

Applicants respectfully submit that claims 33 and 34 are patentable over *Sullivan et al. '561*, *Sullivan et al. '806*, and *Yamada et al.* for at least the same reasons stated above with respect to claim 28 over the *Sullivan et al. '561*, *Statz et al.*, and *Yamada et al.* references, and *Yamagishi et al.* fails to overcome the deficiencies of *Sullivan et al. '561*, *Sullivan et al. '806*, and *Yamada et al.*

Further, the limitations of claims 33 and 34 are essentially the same as the limitations of claims 11 and 12, respectively. Applicants respectfully submit that claims 33 and 34 are patentable over *Yamagishi et al.* for at least the same reasons stated above with respect to claims 11 and 12.

5. REJECTION OF CLAIMS 10 AND 13 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER SULLIVAN ET AL. '561 IN VIEW OF STATZ ET AL. FURTHER IN VIEW OF CASCHERA, JR.

Page 7 of the Office Action rejected claims 10 and 13 under 35 U.S.C. § 103(a) as being unpatentable over *Sullivan et al. '561* (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480) further in view of *Caschera, Jr.* (Strictly Golf Balls). Claims 10 and 13 both depend from claim 1. Applicants respectfully submit that claims 10 and 13 are patentable over *Sullivan et al. '561* and *Statz et al.* for at least the same reasons stated above with respect to claim 1.

Claims 10 and 13 include the limitations “wherein the ball has a diameter of less than about 1.680 in.” and “wherein the ball has a diameter within the range of 1.62 to 1.65 inches,” respectfully.

Sullivan et al. '561 specifically discloses a diameter of “at least 1.68 inches.” This disclosure of *Sullivan et al. '561* is consistent with USGA requirements that require a minimum golf ball diameter of 1.68 inches. The golf balls of claims 10 and 13 are outside of the USGA requirements and outside of the disclosure and teachings of *Sullivan et al. '561*. Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan et al. '561* to have a diameter smaller than 1.680 inches, because such a modification would be repugnant to the teachings of *Sullivan et al. '561*.

6. REJECTION OF CLAIMS 36 AND 37 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER SULLIVAN ET AL. '561 IN VIEW OF STATZ ET AL. AND YAMADA ET AL. FURTHER IN VIEW OF CASCHERA, JR.

Page 8 of the Office Action rejected claims 36 and 37 under 35 U.S.C. § 103(a) as being unpatentable over *Sullivan et al. '561* (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480) and *Yamada et al.* (sic) (U.S. Patent No. 5,585,440 (sic)) further in view of *Caschera, Jr.* (Strictly Golf Balls). Claims 36 and 37 both depend from claim 28.

Applicants respectfully submit that claims 36 and 37 are patentable over *Sullivan et al. '561*, *Statz et al.*, and *Yamada et al.* for at least the same reasons stated above with respect to claim 28.

The limitations of claims 36 and 37 are essentially the same as the limitations of claims 10 and 13, respectively. Applicants respectfully submit that claims 36 and 37 are patentable over *Sullivan et al. '561*, *Statz et al.*, *Yamada et al.*, and *Caschera, Jr.* for at least the same reasons stated above with respect to claims 10 and 13.

7. REJECTION OF CLAIMS 60 AND 61 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER SULLIVAN ET AL. '561 IN VIEW OF STATZ ET AL. FURTHER IN VIEW OF CASCHERA, JR.

Page 8 of the Office Action rejected claims 60 and 61 under 35 U.S.C. § 103(a) as being unpatentable over *Sullivan et al. '561* (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480) further in view of *Caschera, Jr.* (Strictly Golf Balls). Claims 60 and 61 both depend from claim 1. Applicants respectfully submit that claims 60 and 61 are patentable over *Sullivan et al. '561* and *Statz et al.* for at least the same reasons stated above with respect to claim 1.

Sullivan et al. '561 specifically discloses a golf ball having a weight within the range of 43.8 to 45.9 grams, well outside the ranges specified by claims 60 and 61. This disclosure of *Sullivan et al. '561* is consistent with USGA requirements that require a *maximum* golf ball weight of 1.62 ounces. The golf balls of claims 60 and 61 are outside of the USGA requirements and outside of the disclosure and teachings of *Sullivan et al. '561*. Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan et al. '561* to have a weight greater than 1.62 ounces (45.9 grams), because such a modification would be repugnant to the teachings of *Sullivan et al. '561*.

8. REJECTION OF CLAIMS 65 AND 66 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER SULLIVAN ET AL. '561 IN VIEW OF STATZ ET AL. AND YAMADA ET AL. FURTHER IN VIEW OF CASCHERA, JR.

Page 9 of the Office Action rejected claims 65 and 66 under 35 U.S.C. § 103(a) as being unpatentable over *Sullivan et al. '561* (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480) and *Yamada et al.* (U.S. Patent No. 5,585,440) further in view of *Caschera, Jr.* (Strictly Golf Balls). Claims 65 and 66 both depend from claim 28.

Applicants respectfully submit that claims 65 and 66 are patentable over *Sullivan et al.* '561, *Statz et al.*, and *Yamada et al.* for at least the same reasons stated above with respect to claim 28.

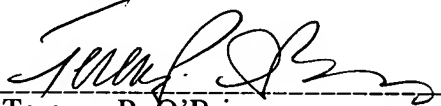
The limitations of claims 65 and 66 are essentially the same as the limitations of claims 60 and 61, respectively. Applicants respectfully submit that claims 65 and 66 are patentable over *Sullivan et al.* '561, *Statz et al.*, *Yamada et al.*, and *Caschera, Jr.* for at least the same reasons stated above with respect to claims 60 and 61.

C. CONCLUSION

Applicants respectfully request reconsideration of claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 for the reasons stated above. Applicants believe that the present application is now in condition for allowance. The Examiner is invited to telephone the undersigned to discuss any issues in this case in order to advance the prosecution thereof.

Respectfully submitted,

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